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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,945	02/12/2004	Matia Marcu	100.476US01	5352

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EXAMINER
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SATKIEWICZ, THOMAS E

ART UNIT	PAPER NUMBER
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4183

MAIL DATE	DELIVERY MODE
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02/05/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/777,945	<b>Applicant(s)</b> MARCU ET AL.	
	<b>Examiner</b> THOMAS E. SATKIEWICZ	<b>Art Unit</b> 4183	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: telecommunication system 100, VoIP Controller 102, IP Network 104, VoIP GW 106, and terminal equipment 108 in Fig #1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. The term "main state machine" in claims 1-3, 5, 6, 8-10, and 13 is a relative term which renders the claim indefinite. The term "main state machine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The main state machine is adapted to process a plurality of

Art Unit: 4183

different type supplemental services with a single process, but what is a main state machine?

4. The term "event converter" in claims 2, 13, and 14 is a relative term which renders the claim indefinite. The term "event converter" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The event converter is adapted to convert received messages, but what is an event converter?

5. The term "action converter" in claims 3, 13, and 14 is a relative term which renders the claim indefinite. The term "action converter" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The action converter is adapted to convert outputs, but what is an action converter?

6. The term "secondary state machine" in claims 5-9, 11, and 13 is a relative term which renders the claim indefinite. The term "secondary state machine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The secondary state machine is adapted to process supplemental services, but what is a secondary state machine?

7. The term "line reverse event converter" in claims 6 and 13 is a relative term which renders the claim indefinite. The term "line reverse event converter" is not

Art Unit: 4183

defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The line reverse event converter is adapted to convert signals, but what is a line reverse event converter?

8. The term "line reverse controller" in claims 7 and 11 is a relative term which renders the claim indefinite. The term "line reverse controller" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The line reverse controller is coupled to the secondary state machine and adapted to control the polarity of communication lines, but what is a line reverse controller?

9. The term "timer manager" in claim 9 is a relative term which renders the claim indefinite. The term "timer manager" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The timer manager is coupled to the main state machine and the secondary state machine, but what is a timer manager?

10. The term "timer converter" in claim 10 is a relative term which renders the claim indefinite. The term "timer converter" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The timer converter is coupled to the main state machine, but what is a timer converter?

11. The term "pre-processing controller" in claim 14 is a relative term which renders the claim indefinite. The term "pre-processing controller" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The pre-processing controller is adapted to compute process variables, but what is a pre-processing controller?

12. The term "first state machine" in claims 17-19, 21, 27, 29, 32-34, and 36 is a relative term which renders the claim indefinite. The term "first state machine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The first state machine is adapted to cover DT-AS/RP-AS and data transmission scenarios, but what is a first state machine?

13. The term "second state machine" in claims 17, 18, 20, 28, 29, 32, 33, and 35 is a relative term which renders the claim indefinite. The term "second state machine" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The second state machine is adapted to cover line reverse signals, but what is a second state machine?

***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

15. Claims 1-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Manchester et al. (U.S. 6,574,333).

16. With regards to claims 1, Manchester teaches a gateway (Broadband Network Unit (BNU); 110A, Fig #1) in a communication system (Fiber to the Curb system (FTTC); 1, Fig #1), the gateway (110A, Fig #1) comprising; a main state machine (Broadband Digital Terminal (BDT); 100, Fig#1) adapted to process a plurality of different type supplemental services with a single process (Column 24, Lines 16-33).

17. With regards to claim 2, Manchester teaches a gateway further comprising; an event converter (Broadband Network Unit (BNU); 110A, Fig#1) adapted to convert received messages based on a type of terminal alerting signal into unique events for the main state machine (Column 5, Lines 35-43).

18. With regards to claim 3, Manchester teaches a gateway further comprising; an action converter (110A, fig#1) adapted to convert output of the main state machine to either a send ring command or a play tone command (Column 5, Line 35-43).

19. With regards to claim 4, Manchester teaches a gateway wherein the plurality of types of supplemental services ((Terminal Alerting Signals; Paragraph 25)(Column 24, Lines 34-44) are selected form a group consisting of dual tone alerting signal (DT-AS)(Stand-By; Table 11), ring pulse alerting signal (RP-AS)(Ring State; Table 15), line reverse + dual alerting signal (LR + DT-AS), line reverse (LR), line reverse + ring pulse

alerting signal (LR + RP-AS)(Ringing Silent; Table 17) and dual tone alerting signal – off hook (DT-AS-Offh)(Off-Hook; Table 12) (Column 5, Lines 59-66).

20. With regards to claim 5, Manchester teaches a gateway further comprising; a secondary state machine (Column 30, Lines 44-56) adapted to process supplemental services related to line polarity, the secondary state machine being under the control of the main state machine (Column 6, Lines 46-53).

21. With regards to claim 6, Manchester teaches a gateway further comprising; a line reverse event converter (Test Circuitry; 407, Fig#4) adapted to convert signals from the main state machine into restore and reverse signals that are coupled to the secondary state machine (Column 7, Lines 22-29).

22. With regards to claim 7, Manchester teaches a gateway further comprising; a line reverse controller (407, Fig#4) coupled to the secondary state machine and adapted to control the polarity of communication lines (Column 7, Lines 22-29).

23. With regards to Claims 8-14, Manchester teaches a voice over IP gateway (110A, Fig#1) for a telecommunication system (1, Fig#1), the gateway comprising; a main state machine (100, Fig#1) adapted to process a plurality services (Column 5, Lines 59-66); and secondary state machine (800, Fig#2) adapted to control the polarity of a transmission line (Cable; 260A, Fig#3), the secondary state machine being controlled by the main state machine (Column 6, Lines 46-53); further comprising; a timer manager (TIUA; 880, Fig#6) coupled to the main state machine and the secondary state machine (Column 18, Lines 15-23); further comprising; a timer converter (880, Fig#6) coupled to the main state computer (Column 18, Lines 15-23); further comprising



a line reverse controller coupled to the secondary state machine, the line reverse controller (407, Fig#4) adapted to control the polarity of the transmission line (Column 7, Lines 22-29); wherein the plurality of types of supplemental services are selected from a group consisting of dual tone alerting signal (DT-AS), ring pulse alerting signal (RP-AS), line reverse + dual tone alerting signal (LR + DT-AS), line reverse (LR), line reverse + ring pulse alerting signal (LR + RP-AS) and dual tone alerting signal-off hook (DT-AS-Offh) (Column 5, Lines 59-66); further comprising; an event converter (110A, Fig#1) adapted to convert received message based on a type of terminal alerting signal and a select input unique events for the main state machine (Column 5, Lines 35-43); an action converter (110A, Fig#1) adapted to convert select outputs of the main state machine to either a send ring command or a play tone command (Column 5, Lines 35-43); and a line reverse event converter (407, Fig#4) adapted to convert signals from the main state machine into restore and reverse signals that are coupled to the secondary state machine (Column 7, Lines 22-29); further comprising; a pre-processing controller (110A, Fig#1) adapted to compute process variables for the event converter, the action converter and the line reverse converter (Column 5, Lines 35-43).

24. With regards to Claims 15-16, Manchester teaches a method implementing a voice over IP gateway (110A, Fig#1) in a communication system (1, Fig#1), the method comprising; supporting a plurality of different types of supplemental services with a single process (Column 5, Lines 59-66); wherein the single process comprises; receiving a supplemental service signal (Column 6, Lines 2-5); computing a process variable based on the supplemental service signal (Column 6, Lines 46-67); converting

the process variable and a select input into a unique event signal (Column 6, Lines 46-67); process the unique event signal (Column 6, Lines 46-67); sending a signal to a select terminal equipment based on the processed unique event signal (Column 6, Lines 46-67); and providing associated supplemental service data to the select terminal equipment (Universal Voice Grade Cards (UVG); Column 6, Line 64- Column 7, Line 6).

25. With regards to claim 17, Manchester teaches a method wherein supporting a plurality of different types of supplemental services with a single process further comprises ( Column 5, Lines 59-66); signaling a first type of supplemental services with a first state machine (Internal State Machine; 604 Fig#6); signaling a second type of supplemental services with a second state machine (Microprocessor Interface; 605, Fig#6) that is synchronized with the first state machine (Column 8, Lines 23-33).

26. With regards to claim 18, Manchester teaches a method further comprising; controlling the second state machine with the first state machine (Column 8, Lines 23-33).

27. With regards to claim 19, Manchester teaches a method wherein the signals used in the signaling of the first type of supplemental services with the first state machine are selected from a group of signals consisting of a dual tone alerting signal (DT-AS) (DSLAC SLIC Ringer EEPROM Control; 607, Fig #6) and a ring pulse alerting signal (RP-AS) (Ringer PWM; 609, Fig#6).

28. With regards to claims 20-21, Manchester teaches a method wherein the signal used in signaling the second type of supplemental services with the second state

Art Unit: 4183

machine is a line reverse (LR) signal (Column 7, Lines 22-29); further comprising; sending service data with the first state machine (Column 8, Lines 23-33).

29. With regards to Claims 22-29, Manchester teaches a method of providing a plurality of supplemental services through a voice over IP Gateway (110A, Fig#1), the method comprising; receiving a supplemental service signal (Column 5, Lines 59-66); computing a process variable based on the supplemental service signal (Column 6, Lines 46-67); converting the process variable and a select input into a unique event signal (Column 6, Lines 46-67); processing the unique event signal (Column 6, Lines 46-67); sending a signal to a select terminal equipment based on the processed unique event signal (Column 6, Lines 46-67); and providing associated supplemental service data to the select terminal equipment (Column 6, Lines 46-67); further comprising; acknowledging the signal based on the processed unique event signal (Column 6, Lines 46-67); wherein the supplemental service signal is selected from a group consisting of dual tone alerting signal (DT-AS) (607, Fig#6), ring pulse alerting signal (RP-AS) (609, Fig#6), line reverse + dual tone alerting signal (LR + DT-AS), line reverse (LR), line reverse + ring pulse alerting signal (LR + RP-AS) and dual tone alerting signal – off hook (DT-AS-Offh) (Column 5, Lines 59-66); wherein processing the unique event further comprises; outputting the signal based on the event signal and select state (Column 6, Lines 46-67); wherein the select states is selected from a group of states consisting of idle, pre-signal (pre-sgn), signal (sgn), wait for acknowledgement (WtAck), pre-data, and data, post data (Column 35, Lines 9-22); wherein processing the unique event further comprises; using a first state machine (604, Fig#6) adapted to cover DT-

AS/RP-AS and data transmission scenarios (Column 8, Lines 19-22); further comprising; using a second state machine (605, Fig#6) adapted to cover line reverse signals (Column 7, Lines 22-29); synchronizing the second state machine with the first state machine (Column 8, Lines 23-33).

30. With regards to Claims 30-36, Manchester teaches a computer-usable medium (Element Management System (EMS); 150, Fig#1) having computer-readable instructions stored thereon for execution by a processor to perform a method comprising (Column 5, Lines 48-58); supporting a plurality of different types of supplemental services with a single process (Column 5, Lines 59-66); wherein the single process comprises; receiving a supplemental service signal (Column 5, Lines 59-66); computing a process variable based on the supplemental service signal (Column 6, Lines 46-67); converting the process variable and a select input into a unique event signal (Column 6, Lines 46-67); processing the unique event signal (Column 6, Lines 46-67); sending a signal to a select terminal equipment based on the processed unique event signal (Column 6, Lines 46-67); and providing associated supplemental service data to the select terminal equipment (Column 6, Lines 46-67); wherein supporting a plurality of different types of supplemental services with a single process further comprises (Column 5, Lines 59-66); signaling a first type of supplemental services (Column 8, Lines 19-22) with a first state machine (604, Fig#6); and signaling a second type of supplemental services (Column 7, Lines 22-29) with a second state machine (605, Fig#6) that is synchronized with the first state machine (Column 8, Lines 23-33): further comprising; controlling the second state machine with the first state machine

Art Unit: 4183

(Column 8, Lines 23-33); wherein the signals used in the signaling of the first type of supplemental services with the first state machine (604, Fig#6) are selected from a group of signals consisting of a dual tone alerting signal (DT-AS) (607, Fig#6) and a ring pulse alerting signal (RP-AS) (609, Fig#6); wherein the signal used in signaling the second type of supplemental services (Column 7, Lines 22-29) with the second state machine (605, Fig#6) is a line reverse (LR) signal; further comprising; sending service data with the first state machine (Column 8, Lines 23-33).

31. **Inquiry**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS E. SATKIEWICZ whose telephone number is (571)270-1948. The examiner can normally be reached on Monday to Thursday 7:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571) 272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 4183

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E Satkiewicz/  
Examiner, Art Unit 4183

/Len Tran/  
Supervisory Patent Examiner, Art Unit 4183